

What is claimed is:

1. An array comprising a plurality of nucleic acid probes, wherein each probe in the plurality of nucleic acid probes comprises one of the sequences listed in SEQ ID Nos. 5 1-982,914 and wherein the plurality of nucleic acid probes of the array comprises each of the sequences listed in SEQ ID Nos. 1-982,914.
2. The array of claim 1 further comprising at least one probe that is the perfect complement of one of the sequences listed in SEQ ID Nos. 1-982,914.
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3. The array of claim 1 further comprising at least one probe that is the mismatch probe corresponding to one of the sequences listed in SEQ ID Nos. 1-982,914, wherein the mismatch position is the central position.
- 15 4. The array of claim 1 wherein said plurality of nucleic acid probes is attached to a solid support.
5. The array of claim 1 wherein the array comprises a plurality of beads wherein the probes are attached to the beads and the probes on a bead consist essentially of one of 20 the sequences listed in SEQ ID Nos. 1-982,914.
6. The array of claim 1 wherein the array consists of a single contiguous solid support.
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7. A method of monitoring gene expression levels in a biological sample from a mouse comprising:
isolating nucleic acid derived from the sample;
labeling the nucleic acid;
hybridizing the labeled nucleic acid to the array of claim 1; and,

detecting the hybridization pattern, wherein the intensity of signal resulting from hybridization to probes on the array is used to monitor gene expression levels.

8. The method of claim 7 wherein said monitoring gene expression levels
5 comprises comparing gene expression levels of nucleic acids derived from two or more different samples and further comprises the step of:

comparing said hybridization patterns between said nucleic acids derived from said two or more different samples.

10 9. The method of claim 7 wherein the labeled nucleic acid hybridized to the array consists essentially of DNA.

10. The method of claim 7 wherein the labeled nucleic acid hybridized to the array consists essentially of RNA that is complementary to the target mRNA.

15 11. The method of claim 7 wherein the labeled nucleic acid hybridized to the array consists essentially of RNA that is in the sense orientation relative to the target mRNA.

20 12. The method of claim 7 wherein the labeled nucleic acid is hybridized to the array in a single reaction.

13. An array of probes comprising at least one probe to each of at least 30,000 different mouse transcripts.

25 14. The array of claim 13 wherein the array consists of a single contiguous solid support.

15. The array of claim 13 wherein the solid support is a chip.

30 16. The array of claim 13 wherein the solid support is a membrane.